

### **Remarks**

In the Office action, non-withdrawn claims 1, 4 and 18-20 were rejected under 35 U.S.C. § 102(b) as anticipated by Feygin; claim 27 was rejected under 35 U.S.C. § 102(b) as anticipated by Tamari; claims 8 and 9 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Feygin in view of Ray; and claims 28-31 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Feygin in view of Polaschegg. The withdrawn claims have been canceled.

It is noted that all of the claims, and particularly the independent claims, are rejected in view of Feygin (claims 1 and 28) which is acknowledged in the Office action as being a peristaltic pump, and Tamari (claim 27) which is also a peristaltic type device. The secondary references as well are peristaltic type devices, including Ray and Polaschegg.

In order to more clearly distinguish the present claims from peristaltic pumps, the independent claims 1, 27 and 28 have been amended to recite additional structural relationships that are not part of a peristaltic pump. For example, the amended claims recite that the gas permeable member comprises a gas permeable wall, and that the gas permeable wall has an exterior surface that is exposed to the positive and negative pressure and an interior surface that is exposed to the material that flows through the pump chamber.

In the peristaltic devices, there is no gas permeable wall that has an interior surface exposed to the material and an exterior surface exposed to positive and negative pressure. To this point, the peristaltic pump requires that the inner flexible member not be gas permeable. There is no gas permeable wall structure in a peristaltic pump that meets the structural recitations of the amended claims. Additionally, the claims are not met by any interpretation of the gas permeable wall as including both an outer cylinder and the flexible member (for example, the bladder 1 and jacket 2 of Feygin, or the liner 66 and the casing 68 in Fig. 3 of Polaschegg) because the present claims recite that the material flows through a pump chamber that is defined in part by the gas permeable member that comprises a gas permeable wall. This is not just a functional feature but also a structural one, as the claims further recite that the interior surface of the gas permeable wall is exposed to the material.

New claim 32 further elaborates that the gas permeable member permits gas to flow into and out of the pump chamber, a structural feature that cannot be met by a peristaltic pump that necessarily isolates the interior volume from the actuating gas.


As to the other dependent claims, those rejections are traversed at least on the basis that the independent claims are patentable over the art of record. It is further respectfully submitted that the art of record does not teach or suggest the valve and control features of dependent claims 29-31 and the Office action contains no elaboration on why those claims are met by the art of record. Claim 28 expressly states that the flow rate of material is adjustable independent of the pump cycle duration. Feygin expressly states at col. 5 lines 27-29, that "the frequency of the pressure to vacuum transitions will determine the operating speed or flow of the pumping device" (emphasis added). Clearly, in Feygin the material flow rate is directly dependent on the pump cycle duration. The Ray reference teaches the use of simple check valves so that again the material flow rate is dependent on the pump cycle rate, not independent. As to the rejection of claim 9, the check valves of Ray are not separately actuated, they passively open and close simply in response to fluid pressure of the material being pumped.

As to dependent claims 18-21, Feygin does not teach independent actuation of the valves. In order for the Feygin apparatus to work properly, it is respectfully submitted that once the actuation of one of the segments is fixed, all the other segments are necessarily fixed or dependent to that one segment. Further reasons for patentability of the dependent claims are reserved pending further examination of the independent claims.

The application, in light of the above amendments and arguments, is considered to be in condition for allowance and favorable reconsideration and a notice of allowability are respectfully requested.

Respectfully submitted,  
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